

IUBMB Enzyme Nomenclature

EC 2.3.1.51

Common name: 1-acylglycerol-3-phosphate *O*-acyltransferase

Reaction: acyl-CoA + 1-acyl-*sn*-glycerol 3-phosphate = CoA + 1,2-diacyl-*sn*-glycerol 3-phosphate

Other name(s): 1-acyl-*sn*-glycero-3-phosphate acyltransferase; 1-acyl-*sn*-glycerol 3-phosphate acyltransferase; 1-acylglycero-3-phosphate acyltransferase; 1-acylglycerolphosphate acyltransferase; 1-acylglycerophosphate acyltransferase; lysophosphatidic acid-acyltransferase

Systematic name: acyl-CoA:1-acyl-*sn*-glycerol-3-phosphate 2-*O*-acyltransferase

Comments: Acyl-[acyl-carrier protein] can also act as an acyl donor. The animal enzyme is specific for the transfer of unsaturated fatty acyl groups.

Links to other databases: [BRENDA](#), [EXPASY](#), [KEGG](#), [ERGO](#), CAS registry number: 51901-16-7

References:

1. Frentzen, M., Heinz, E., McKeon, T.A. and Stumpf, P.K. Specificities and selectivities of glycerol-3-phosphate acyltransferase and monoacylglycerol-3-phosphate acyltransferase from pea and spinach chloroplasts. *Eur. J. Biochem.* 129 (1983) 629-636. [Medline UI: [83131613](#)]
2. Hill, E.E. and Lands, W.E.M. Incorporation of long-chain and polyunsaturated acids into phosphatidate and phosphatidylcholine. *Biochim. Biophys. Acta* 152 (1968) 645-648. [Medline UI: [68321921](#)]
3. Yamashita, S., Hosaka, K. and Numa, S. Acyl-donor specificities of partially purified 1-acylglycerophosphate acyltransferase, 2-acylglycerophosphate acyltransferase and 1-acylglycerophosphorylcholine acyltransferase from rat-liver microsomes. *Eur. J. Biochem.* 38 (1973) 25-31. [Medline UI: [74087133](#)]

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